

## ABSTRACT

A method and apparatus for generating a preamble sequence in an orthogonal frequency division multiplexing (OFDM) communication system  
5 having  $m$  subcarriers in a frequency domain. The method comprises generating a preamble sequence of length  $n$  that is mapped to  $n$  subcarriers on a one-to-one basis, where  $n$  is less than  $m$ ; and assigning components constituting the preamble sequence to the  $n$  subcarriers among the  $m$  subcarriers on a one-to-one mapping basis, assigning null data to the remaining subcarriers excluding the  $n$   
10 subcarriers from the  $m$  subcarriers, and then IFFT (Inverse Fast Fourier Transform)-transforming the assigned result into time-domain data.